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Patient outcomes after caesarean delivery under neuraxial anaesthesia following a change to earlier removal of an indwelling urinary catheter

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Introduction: International consensus on enhanced recovery after caesarean section advocates removal of the indwelling urinary catheter (IDC) by 6-12 hours postpartum.1 Neuraxial morphine may increase the incidence of bladder issues post-operatively, this risk may be mitigated with appropriate bladder care post-catheter removal. Following a review of the evidence, the long-standing policy in our institution for the IDC to remain in for a minimum of 24 hours post caesarean delivery and neuraxial morphine was reduced to a minimum of 12 hours.

Methods: Demographic and clinical data and potential risk factors for postpartum bladder issues were identified a-priori on 100 randomly selected women who delivered by caesarean with neuraxial morphine in April 2022.

Results: The IDC was removed at the 12 hour mark in 64 women, 6 of whom failed their first trial of void, with 4 of these having a residual volume 500mL. No cases of bladder over stretch injury occurred. The average number of risk factors in women who successfully completed their first trial of void was 1.9, compared to 3.5 in those who had a residual volume of >500mL.

Conclusions: In women receiving neuraxial morphine for caesarean delivery, where the IDC was removed at the 12 hour mark the incidence of a PVR>500mL was 3.1%, compared to no cases for women in whom the IDC was left in for a prolonged period. The women who had a PVR>500mL tended to have multiple risk factors present for an increased PVR. This suggests that with appropriate bladder care, the IDC can be safely removed at the 12 hour mark as per ERAS guidelines while in women with multiple risk factors for urinary retention, it may be prudent to leave the IDC in for more than 12 hours.

Table One

	Group A n=64	Group B n=36
Risk factors for Urinary Retention		
Elective caesarean	36 (56%)	17 (47%)
Non elective caesarean	28 (44%)	19 (53%)
Obesity	21 (33%)	18 (50%)
LGA baby	6 (9%)	6 (17%)
Nulliparous	19 (30%)	10 (28%)
Non-english speaking	1 (2%)	0 (0%)
Prolonged 1st stage	1 (2%)	1 (3%)
Bladder Outcomes		
Passed 1st Trial of Void	58 (91%)	36 (100%)
Failed 1st TOV, PVR<500ml	4 (6%)	0 (0%)
Failed 1st TOV, PVR>500ml	2 (3%)	0 (0%)
Failed 1st TOV, PVR>1L	0 (0%)	0 (0%)

Data are presented as n(%). LGA=large for gestational age, TOV=trial of void, PVR=post void residual volume

Recent Publications

1. Bollag L, Lim G, Sultan P, Habib AS, Landau R, Zakowski M, Tiouririne M, Bhambhani S, Carvalho B. Society for obstetric anesthesia and perinatology: consensus statement and recommendations for enhanced recovery after cesarean. Anesthesia & Analgesia. 2021 May 1;132(5):1362-77.

2. Myo J, Pooley S, Brennan F. Oral, in place of intravenous, paracetamol as the new normal for elective cases. Anaesthesia. 2021 Aug;76(8):1143-1144.

3. Schug S, Palmer G, Scott D. Acute Pain Management: Scientific Evidence. 5th Edition 2020.

Biography

Hilary Leeson completed her medical degree in Trinity College Dublin in 2019. She is currently working in perioperative medicine as a Resident Medical Officer in Australia. She has an interest in perioperative medicine and anaesthetics.

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